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MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC,
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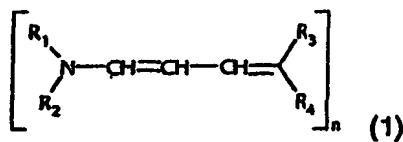
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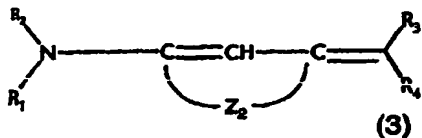
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[Continued on next page]

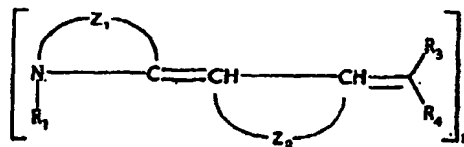
(54) Title: MEROCYANINE DERIVATIVES FOR COSMETIC USE



(1)



(3)



(2)

(57) Abstract: The use is described of merocyanine derivatives of formula (1), wherein R₁ and R₂ are each independently of the other hydrogen; C₁-C₂₂alkyl; cyclo-C₃C₈alkyl; or unsubstituted or C₁-C₅alkyl- or C₁-C₅alkoxy-substituted C₆-C₂₀aryl; or R₁ and R₂ together with the nitrogen atom linking them form a -(CH₂)_m- ring which is uninterrupted or interrupted by -O- or by -NH-; R₃ is a cyano group; -COOR₅; -CONHR₅; -COR₅; or -SO₂R₅; R₄ is a cyano group; -COOR₆; -CONHR₆; -COR₆; or -SO₂R₆; R₅ and R₆ are each independently of the other C₁-C₂₂alkyl; or unsubstituted or C₁-C₅alkyl substituted C₆-C₂₀aryl; or R₃ and R₄ together or R₅ and R₆ together form a 5- to 7-membered, monocyclic, carbocyclic or heterocyclic ring; Z₁, and Z₂ are each independently of the other a -(CH₂)_n- group which is uninterrupted or interrupted by -O-, -S-, or by -NR₇-, and/or is unsubstituted or substituted by C₁-C₅ alkyl; R₇ is C₁-C₅alkyl; I is from 1 to 4; m is from 1 to 7; n is from 1 to 4; when n = 2, R₁, R₅ or R₆ is a bivalent alkyl group; or R₁, and R₂ together with the 2 nitrogen atoms linking them form a -(CH₂)_m- ring; when n = 3, R₁, R₅ or R₆ is a trivalent alkyl group; when n = 4, R₁, R₅ or R₆ is a tetravalent alkyl group; and R₁, and R₂ in formula (1) are not simultaneously hydrogen, in protecting human and animal hair and skin from UV radiation.

WO 2004/006878 A1



For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

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INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference HP/5-22712	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/EP 03/06955	International filing date (day/month/year) 01/07/2003	(Earliest) Priority Date (day/month/year) 10/07/2002
Applicant CIBA SPECIALTY CHEMICALS HOLDING INC.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 5 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☐ the text is approved as submitted by the applicant.

☒ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

☐ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

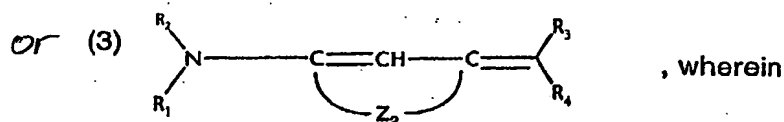
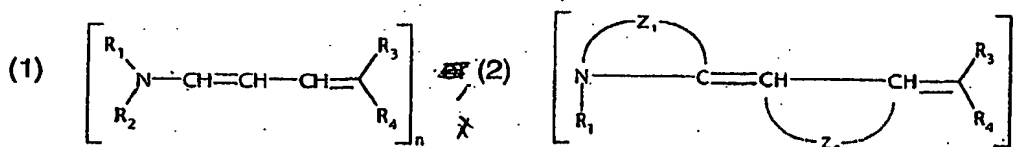
☐ because this figure better characterizes the invention.

☐ None of the figures.

Box III TEXT OF THE ABSTRACT (Continuation of Item 5 of the first sheet)

Abstract of the Disclosure

The use is described of merocyanine derivatives of formula



R_1 and R_2 are each independently of the other hydrogen; C_1 - C_{22} alkyl; cyclo- C_3 - C_8 alkyl; or unsubstituted or C_1 - C_5 alkyl- or C_1 - C_5 alkoxy-substituted C_6 - C_{20} aryl; or R_1 and R_2 together with the nitrogen atom linking them form a $-(CH_2)_m$ - ring which is uninterrupted or interrupted by $-O-$ or by $-NH-$;

R_3 is a cyano group; $-COOR_5$; $-CONHR_5$; $-COR_5$; or $-SO_2R_5$;

R_4 is a cyano group; $-COOR_6$; $-CONHR_6$; $-COR_6$; or $-SO_2R_6$;

R_5 and R_6 are each independently of the other C_1 - C_{22} alkyl; or unsubstituted or C_1 - C_5 alkyl-substituted C_6 - C_{20} aryl;

or R_3 and R_4 together or R_5 and R_6 together form a 5- to 7-membered, monocyclic, carbocyclic or heterocyclic ring;

Z_1 and Z_2 are each independently of the other a $-(CH_2)_l$ - group which is uninterrupted or interrupted by $-O-$, $-S-$, or by $-NR_7$, and/or is unsubstituted or substituted by C_1 - C_5 alkyl;

R_7 is C_1 - C_5 alkyl;

l is from 1 to 4;

m is from 1 to 7;

n is from 1 to 4;

when $n = 2$, R_1 , R_5 or R_6 is a bivalent alkyl group; or R_1 and R_2 together with the 2 nitrogen atoms linking them form a $-(CH_2)_m$ - ring;

when $n = 3$, R_1 , R_5 or R_6 is a trivalent alkyl group;

when $n = 4$, R_1 , R_5 or R_6 is a tetravalent alkyl group; and

R_1 and R_2 in formula (1) are not simultaneously hydrogen, in protecting human and animal hair and skin from UV radiation.

INTERNATIONAL SEARCH REPORT

International Application No

PO 03/06955

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A61K7/42 C07C255/30 C07D295/145

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A61K C07C C07D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, CHEM ABS Data, BEILSTEIN Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 00 20388 A (CIBA SC HOLDING AG (CH)) 13 April 2000 (2000-04-13) claims 1,8; example 2 -----	1,2
A	EP 0 127 819 A (MINNESOTA MINING & MFG) 12 December 1984 (1984-12-12) abstract; example 1 -----	1
A	US 3 723 154 A (OLIVER, G.L.) 27 March 1973 (1973-03-27) claim 1; example 1 -----	1,2,20
A	US 4 309 500 A (SHISHIDO, TADAO) 5 January 1982 (1982-01-05) abstract column 1, line 45 - column 2, line 20 column 4, line 5 - column 5, line 50 ----- -/--	1,2

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *&* document member of the same patent family

Date of the actual completion of the international search

4 November 2003

Date of mailing of the international search report

20/11/2003

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Krische, D

INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 03/06955

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 806 834 A (YOSHIDA, TORU) 15 September 1998 (1998-09-15) abstract column 6, line 58 - column 7, line 57 -----	1
A	DE 35 31 383 A (AGFA GEVAERT AG) 5 March 1987 (1987-03-05) claim 1 page 4, line 19 - page 7, line 36 -----	1

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP 03/06955

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